

1 **RANGE-BASED CACHE CONTROL SYSTEM AND METHOD**

2 **ABSTRACT OF THE DISCLOSURE**

3 The present invention relates to disk drive having a cache control system that generates
4 scan results that permit response to a host command using existing cached data having a logical
5 block address (LBA) range that overlaps a host command LBA range. The cache control system
6 forms variable length segments of memory clusters in a cache memory for caching disk data in
7 contiguous LBA ranges. The cached LBA ranges are scanned for segments having LBA ranges
8 overlapping with an LBA range of a host command. The cache control system is effective in
9 exploiting any existing overlapping cache data.